

Notice of Allowability

Application No.

10/055,901

Examiner

Gary C. Vieaux

Applicant(s)

KOKUBUN ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 3/1/2007.
2. ☒ The allowed claim(s) is/are 1-3, 7-16 (now formally renumbered as 1-13).
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

NGO-YEN VU

SUPERVISORY PATENT EXAMINER

Continued Examination Under 37 CFR 1.114

10 1, 2007, has been entered.

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Amendment to the Specification

The title is amended to read "X-Y ADDRESS TYPE SOLID-STATE IMAGE PICKUP DEVICE WITH AN IMAGE AVERAGING CIRCUIT DISPOSED IN THE NOISE CANCEL CIRCUIT", which represents a title that is more clearly indicative of the invention to which the claims are currently directed.

Amendment to the Claims

Claims 10 and 13-16 are no longer withdrawn from consideration.

Claim 1 is generic and allowable. Accordingly, the restriction requirement as to
5 the encompassed species is hereby withdrawn and claims 10 and 13-16, directed to the
species 1-3 and 5 are no longer withdrawn from consideration since all of the claims to
this species depend from or otherwise include each of the limitations of an allowed
generic claim.

In view of the above noted withdrawal of the restriction requirement as to the
10 linked species, applicant(s) are advised that if any claim(s) depending from or including
all the limitations of the allowable generic linking claim(s) be presented in a continuation
or divisional application, such claims may be subject to provisional statutory and/or
nonstatutory double patenting rejections over the claims of the instant application.

Once a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are
15 no longer applicable. See *In re Ziegler*, 44 F.2d 1211, 1215, 170 USPQ 129, 131-32
(CCPA 1971). See also MPEP § 804.01.

*****End Examiner's Amendment*****

REASONS FOR ALLOWANCE

Amendment

In response to the most recent Office Action, dated August 9, 2006, claims 1 and 7 have been amended, and claims 4-6 have been cancelled.

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Response to Amendment

Applicant's arguments with respect to the objection to the Drawings have been fully considered and are persuasive. The objection of Figure 11 has been withdrawn.

Applicant's arguments, with respect to claims 1-3, 7-9, and 11-12 have been fully considered and are persuasive. The rejections of 1-3, 7-9, and 11-12 have been withdrawn.

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Allowable Subject Matter

Claims 1-3 and 7-16 are allowed.

15 The following is an examiner's statement of reasons for allowance:

Regarding claims 1-3 and 7-16, the prior art is not found to teach or fairly suggest, an image pickup device comprising a plurality of pixel regions arranged in a matrix form in regions defined by a plurality of horizontal selection lines and a plurality of vertical selection lines, wherein each pixel region including a photoelectric transducer for performing photoelectric conversion of incident light, an amplifier for converting an electric charge stored in the photoelectric transducer into image data, and a horizontal selection switch for outputting the image data to a predetermined one of vertical

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selection lines on the basis of a horizontal selection signal outputted to a predetermined one of horizontal selection lines, a noise cancel circuit for removing a noise superimposed on the image data, and an image averaging circuit disposed in the noise cancel circuit for carrying out an averaging processing of the image data after the end of

5 the noise cancel operation outputted from at least two of the plurality of pixel regions, wherein the noise cancel circuit includes, for each of the vertical selection lines, a correlated double sampling circuit in which an electric charge corresponding to the image data after removal of the noise is held in a first capacitance, and the image averaging circuit includes a first averaging processing switch for connecting a plurality

10 of the first capacitances to average a plurality of the electric charges

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on

15 Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

20 Krymski (US 7,154,075) discloses a method of pixel binning incorporated into a noise reduction scheme.

Yang et al. (US 2004/0246354) discloses pixel averaging with noise reduction.


Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary C. Vieaux whose telephone number is 571-272-7318. The examiner can normally be reached on Monday - Friday, 8:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NgocYen T. Vu can be reached on 571-272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gary C. Vieaux
Examiner
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SUPERVISORY PATENT EXAMINER